

**IN THE CLAIMS**

1. **(Previously Presented)** A method for service flow mobility, comprising:  
queuing traffic for a mobile device in one of a plurality of class of service queues in a gateway for the mobile device;

altering an association of the class of service queues for the mobile device from a first sector to a second sector in response to at least a sector change for the mobile device, wherein altering an association of the class of service queues for the mobile device from a first sector to a second sector comprises:

deleting an object link corresponding to the mobile device from a first sector object list in the gateway; and

creating an object link corresponding to the mobile device in a second sector object list in the gateway; and

holding post-sector-change packets for the mobile device temporarily in a buffer in the gateway until pre-sector-change packets have been emptied from the class of service queues in the gateway.

2. **(Previously Presented)** The method of Claim 1, further comprising reformatting the class of service queues by altering a type of class of service queues for the mobile device based on admission criteria of the second sector.

3. **(Original)** The method of Claim 2, wherein the admission criteria comprises classes of service available in the second sector.

4. **(Previously Presented)** The method of Claim 2, further comprising after reformatting the class of service queues, placing the held post-sector-change packets in the class of service queues.

5. **(Canceled)**

6. **(Previously Presented)** The method of Claim 1, wherein the post-sector-change packets are identified by a label.

7.     **(Original)** The method of Claim 1, wherein the sector change comprises a primary sector change.
8.     **(Original)** The method of Claim 7, further comprising scheduling traffic out of the class of service queues for delivery to the mobile device through a corresponding class of service of the primary sector for the mobile device.
9.     **(Previously Presented)** The method of Claim 1, wherein the pre-sector-change packets comprise packets that have already been queued at a time of the sector change.
10.    **(Original)** The method of Claim 1, wherein packet labels are used to identify pre-sector-change packets and post-sector-change packets.
11.    **(Previously Presented)** The method of Claim 1, further comprising in response to at least a further sector change, prior to emptying the pre-sector-change packets from the class of service queues, holding further post-sector-change packets for the mobile device until the pre-sector-change and the post-sector-change packets have been emptied from the class of service queues.

12. **(Previously Presented)** A system for service flow mobility, comprising:  
means for queuing traffic for a mobile device in one of a plurality of class of service queues in a gateway for the mobile device;  
means for altering an association of the class of service queues for the mobile device from a first sector to a second sector in response to at least a sector change for the mobile device, wherein means for altering an association of the class of service queues for the mobile device from a first sector to a second sector comprises:  
means for deleting an object link corresponding to the mobile device from a first sector object list in the gateway; and  
means for creating an object link corresponding to the mobile device in a second sector object list in the gateway; and  
means for holding post-sector-change packets for the mobile device temporarily in a buffer in the gateway until pre-sector-change packets have been emptied from the class of service queues in the gateway.

13. **(Previously Presented)** The system of Claim 12, further comprising means for after emptying the class of service queues reformatting the class of service queues by altering a type of class of service queues for the mobile device based on admission criteria of the second sector.

14. **(Original)** The system of Claim 13, wherein the admission criteria comprises classes of service available in the second sector.

15. **(Previously Presented)** The system of Claim 13, further comprising means for after reformatting the class of service queues, placing the held post-sector-change packets in the class of service queues.

16. **(Canceled)**

17. **(Previously Presented)** The system of Claim 12, wherein a destination of the packets is identified using labels.

18. **(Original)** The system of Claim 12, wherein the sector change comprises a primary sector change.

19. **(Original)** The system of Claim 18, further comprising means for scheduling traffic out of the class of service queues for delivery to the mobile device through a corresponding class of service of the primary sector for the mobile device.

20. **(Previously Presented)** The system of Claim 12, wherein the pre-sector-change packets comprise packets that have already been queued at a time of the sector change.

21. **(Original)** The system of Claim 12, wherein labels are used to identify pre-sector-change packets and post-sector-change packets.

22. **(Previously Presented)** The system of Claim 12, further comprising means to, in response to at least a further sector change, prior to emptying the pre-sector-change packets from the class of service queues, holding further post-sector-change packets for the mobile device until the pre-sector-change and the post-sector-change packets have been emptied from the class of service queues.

23. **(Currently Amended)** A system for service flow mobility comprising logic encoded in media, the logic operable to:

queue traffic for a mobile device in one of a plurality of class of service queues in a gateway for the mobile device;

alter an association of the class of service queues for the mobile device from a first sector to a second sector in response to at least a sector change for the mobile device, wherein altering an association of the class of service queues for the mobile device from a first sector to a second sector comprises:

deleting an object link corresponding to the mobile device from a first sector object list in the gateway; and

creating an object link corresponding to the mobile device in a second sector object list in the gateway; and

hold post-sector-change packets for the mobile device temporarily in a buffer in the gateway until pre-sector-change packets have been emptied from the class of service queues in the gateway.

24. **(Previously Presented)** The system of Claim 23, further comprising logic operable to, after emptying the class of service queues, reformat the class of service queues by altering a type of class of service queues for the mobile device based on admission criteria of the second sector.

25. **(Original)** The system of Claim 24, wherein the admission criteria comprises classes of service available in the second sector.

26. **(Previously Presented)** The system of Claim 24, further comprising after reformatting the class of service queues, logic operable to place the held post-sector-change packets in the class of service queues.

27. **(Canceled)**

28. **(Previously Presented)** The system of Claim 23, wherein a destination of the packets is identified using labels.

29. **(Original)** The system of Claim 23, wherein the sector change comprises a primary sector change.

30. **(Previously Presented)** The system of Claim 29, further comprising logic operable to schedule traffic out of the class of service queues for delivery to the mobile device through a corresponding class of service of the primary sector for the mobile device.

31. **(Previously Presented)** The system of Claim 23, wherein the pre-sector-change packets comprise packets that have already been queued at a time of the sector change.

32. **(Original)** The system of Claim 23, wherein labels are used to identify pre-sector-change packets and post-sector-change packets.

33. **(Previously Presented)** The system of Claim 23, further comprising logic operable to, in response to at least a further sector change, prior to emptying the pre-sector-change packets from the class of service queues, hold further post-sector-change packets for the mobile device until the pre-sector-change and the post-sector-change packets have been emptied from the class of service queues.

34. **(Currently Amended)** A method for service flow mobility that maintains packet order comprising:

receiving at a gateway sending data to a mobile device a sector change notification indicating that a primary sector of the mobile device has changed from a first sector to a second sector;

generating labels for incoming data packets destined for the mobile device received after the sector change notification, the **label labels** associated with the second sector;

applying the labels to the incoming data packets;

buffering the incoming data packets in a buffer list;

deleting object links corresponding to the mobile device from a first sector-specific object list in the gateway, wherein the first sector-specific object list corresponds to the first sector;

creating object links corresponding to the mobile device in a second sector-specific object list in the gateway, wherein the second sector-specific object list corresponds to the second primary sector; and

queuing data packets from the buffer list when ~~the~~ **an** existing queue of data packets destined for the mobile device have been transmitted.

35. **(Original)** The method of Claim 34, wherein the flow of the data packets is divided into a plurality of microflows.

36. **(Original)** The method of Claim 35, wherein the microflows correspond to classes of service.

37. **(Original)** The method of Claim 34, wherein data packets are queued according to class of service.

38. **(Original)** The method of Claim 37, wherein the existing queue of data packets corresponds to the classes of service available in the first sector.

39. **(Original)** The method of Claim 37, wherein the queuing of data packets from the buffer list corresponds to the classes of service available in the second sector.

40. **(Currently Amended)** The ~~system~~ method of Claim 34, further comprising ~~means to~~, in response to at least a further section change, prior to emptying the pre-sector change packets for the class of service queues, holding further post-sector change packets for the mobile device until the pre-sector change and the post-sector change packets have been emptied from the class of service queues.

41. **(Currently Amended)** A system for service flow mobility that maintains packet order comprising:

means for receiving at a gateway sending data to a mobile device a notification that ~~the a~~ primary sector of the mobile device has changed;

means for deleting object links corresponding to the mobile device from a sector-specific object list in the gateway, wherein the sector-specific object list corresponds to ~~the~~ an old primary sector;

means for creating object links corresponding to the mobile device in another sector-specific object list in the gateway, wherein the other sector-specific object list corresponds to ~~the a~~ new primary sector;

means for changing ~~the~~ labels of incoming data packets destined for the mobile device;

means for buffering the incoming data packets in a buffer list;

means for queuing and transmitting data packets from the buffer list when ~~the an~~ existing queue of data packets destined for the mobile device have been transmitted.

42. **(Original)** The system of Claim 41, wherein the flow of the data packets is divided into a plurality of microflows.

43. **(Original)** The system of Claim 42, wherein the microflows correspond to classes of service.

44. **(Original)** The system of Claim 41, wherein data packets are queued according to class of service.

45. **(Original)** The system of Claim 44, wherein the existing queue of data packets corresponds to the classes of service available in the old sector.



46. **(Original)** The system of Claim 44, wherein the queuing of data packets from the buffer list corresponds to the classes of service available in the new sector.

47. **(Original)** The system of Claim 41, further comprising means to, in response to at least a further section change, prior to emptying the pre-sector change packets for the class of service queues, holding further post-sector change packets for the mobile device until the pre-sector change and the post-sector change packets have been emptied from the class of service queues.

48. **(Previously Presented)** The method of Claim 1, further comprising:  
generating the buffer in the gateway to temporarily hold the post-sector-change packets; and  
placing the post-sector-change packets in the buffer according to a label that identifies the post-sector-change packets.